

Tantalum Concentrates Dissolution and Purification Method

Abstract

A method for the dissolution and purification of tantalum ore and synthetic concentrates is described. The method preferably uses ammonium bifluoride as the fluoride source in place of the hydrofluoric acid used in the conventional methods. Other fluoride compounds such as NaF, KF, and CaF_2 may be used alone or in combination with ammonium bifluoride. The tantalum concentrate and fluoride source are combined with sulfuric acid to form a solution containing tantalum values and impurities. The tantalum values are then separated from the impurities by solvent extraction.